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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/628,840   | 07/28/2003  | Ichiro Yamashita     | 5077-074/DVA        | 5831             |
| 27572  | 7590        | 06/02/2006           |                     | EXAMINER         |
| HARNESS, DICKEY & PIERCE, P.L.C.<br>P.O. BOX 828<br>BLOOMFIELD HILLS, MI 48303 |             |                      | FORMAN, BETTY J     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1634                |                  |

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                   |
|------------------------------|-----------------|-------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)      |
|                              | 10/628,840      | YAMASHITA, ICHIRO |
|                              | Examiner        | Art Unit          |
|                              | BJ Forman       | 1634              |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 March 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 14-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 and 29 is/are withdrawn from consideration.
- 5) Claim(s) 17-19, 25 and 26 is/are allowed.
- 6) Claim(s) 20-24 and 28 is/are rejected.
- 7) Claim(s) 21 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. 09/979,438.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 20060524 .
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Objections***

Claim 21 is objected to because of the following informalities:

The claim contains typographical errors in lines 3 and 4.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-24 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 20-24 and 28 are indefinite in step (c1) of Claim 20 and step (c6) of claim 28.

The steps recite "the one of the pair of nucleotide molecules having the sulfur atom". There is insufficient antecedent basis for this recitation in Claim 17. It is suggested that the claims be amended to provide proper antecedent basis e.g. define the nucleotide molecules of Claim 17 as having a sulfur atom.

**REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

The claims are drawn to methods for making a nucleotide detector. The claims require arranging metal-protein complexes on a substrate, removing the protein and attaching the

Art Unit: 1634

nucleic acids to the metal particles remaining on the substrate. The prior art is replete with methods of making nucleotide detectors wherein the detectors comprise nucleic acids attached to metal particles. However, the prior art does not teach or suggest using and removing a protein to provide the detector. The closest prior art, Furlong et al (U.S. Patent No. 6,239,255) immobilizes GBP-AP protein onto a gold surface, digests the AP domain from the GBP and attaches to the GBP a recognition element e.g. "Protein A, antibody, antigen, nucleic acid or other binding partner" (Abstract). However, the prior art does not teach or suggest arranging multiples of gold surface taught by Furlong et al onto a substrate prior to protein removal or nucleic acid attachment. Furthermore, because the prior art is so replete with particle immobilized nucleic acids using methods not requiring the claimed intermediate protein, the prior art would not lead one of ordinary skill to add the additional steps as claimed.

#### ***Allowable Subject Matter***

Claims 17-28 are free of the prior art and may be placed in condition for allowance following resolution of the above rejections and objections.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

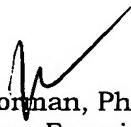
Art Unit: 1634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

  
BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
May 24, 2006